

In the Claims:

1--26. (Canceled)

27. (Currently Amended) Pulsator apparatus for applying pressure-pulses to the outer surface of a body, particularly useful in pressure-pulse therapy, comprising:

an enclosure open at one end and having a longitudinal axis extending through said open end;

a pressure-pulse source within said enclosure, at the end thereof opposite to said closed-open end, to generate primary pressure pulses;

a flexible diaphragm enclosing said open end of the enclosure and adapted to be brought into contact with the surface of the body to receive the pressure pulses;

a liquid pulse-transmitting medium between said pressure-pulse source and said flexible diaphragm;

and an acoustical coupling member within said enclosure and located with respect to said pressure-pulse source and said liquid pulse-transmitting medium so as to be effective to convert said primary pressure pulses to composite pressure pulses propagated outwardly of said flexible diaphragm in the direction of said longitudinal axis of the enclosure, each of said composite pressure pulses including a non-focussed portion, and at least one focussed portion focussed to a focal point within said non-focussed portion and outwardly of said flexible diaphragm.

28. (Previously Presented) The pulsator apparatus according to Claim 27, wherein said non-focussed portion of each composite pressure pulse is collimated substantially parallel to said longitudinal axis.

29. (Previously Presented) The pulsator apparatus according to Claim 27, wherein said focussed portion of each composite pressure pulse is convergent towards said longitudinal axis.

30. (Previously Presented) The pulsator apparatus according to Claim 27, wherein said focussed portion of each composite pressure pulse is focussed to a focal

point on said longitudinal axis of the enclosure, within said non-focussed portion and outwardly of said flexible diaphragm.

31. (Previously Presented) The pulsator apparatus according to Claim 30, wherein each of said composite pressure pulses includes at least a second focussed portion focussed to a second focal point on said longitudinal axis spaced outwardly from said first focal point.

32. (Previously Presented) The pulsator apparatus according to Claim 27, wherein said acoustical coupling member includes a central section for producing said non-focussed portion of each composite pressure pulse, and at least one ring-shaped section around said central section for producing said at least one focussed portion of the composite pressure pulse outwardly of said flexible diaphragm.

33. (Previously Presented) The pulsator apparatus according to Claim 32, wherein said acoustical coupling member is an acoustical reflector having a central section which is substantially parabolic; and wherein said pressure-pulse source is a point source located in the vicinity of the focal point of said substantially parabolic central section of the acoustical reflector so as to produce said non-focussed portion of the composite pressure pulses.

34. (Previously Presented) The pulsator apparatus according to Claim 33, wherein said point-pressure source is carried by a linear extender movable along the longitudinal axis of the enclosure to vary the position of the point pressure source with respect to said acoustical reflector.

35. (Previously Presented) The pulsator apparatus according to Claim 32, wherein said acoustical coupling member is an acoustical lens having a central section formed with a cut-out coaxial to the longitudinal axis of the enclosure, and wherein said pressure-pulse source is a flat-surface source located in alignment with said cut-out of the acoustical lens.

36. (Previously Presented) The pulsator apparatus according to Claim 32, wherein said acoustical coupling member is an acoustical reflector having a central dome-shaped section; and wherein said pressure-pulse source is a cylindrical-surface source having a longitudinal axis coaxial with the longitudinal axis of said enclosure.

37. (Previously Presented) The pulsator apparatus according to Claim 32, wherein said acoustical coupling member is an acoustical reflector; and said at least one ring-shaped section is substantially ellipsoidal and coaxial with said longitudinal axis of the enclosure.

38. (Previously Presented) The pulsator apparatus according to Claim 32, wherein said pressure-pulse source is a point source, said central section of the reflector is substantially parabolic having a focal point substantially at said point source, and said ring-shaped section of the reflector is substantially ellipsoidal, and has a proximal focal point at or in the vicinity of the focal point of the parabolic reflector section within said enclosure, and a distal focal point outwardly of said enclosure in the vicinity of said flexible diaphragm within said non-focussed portion of the composite pressure pulse.

39. (Previously Presented) The pulsator apparatus according to Claim 32, wherein said acoustical coupling member includes two or more ring-shaped sections all substantially ellipsoidal and coaxial with said longitudinal axis of the enclosure for producing composite pressure pulses having two or more focussed portions focussed to focal points spaced from each other on said longitudinal axis of the enclosure outwardly of said flexible diaphragm.

40. (Previously Presented) The pulsator apparatus according to Claim 39, wherein said pressure pulse source is a cylindrical-surface source having a longitudinal axis coaxial with the longitudinal axis of said enclosure and of said ring-shaped ellipsoidal sections of the acoustical reflector.

41. (Previously Presented) The pulsator apparatus according to Claim 40, wherein said cylindrical pressure pulse source includes a cylindrical core, a plurality of electromagnetic coils in a cylindrical array around said cylindrical core, and a cylindrical insulating layer over said cylindrical array of coils.

42. (Previously Presented) The pulsator apparatus according to Claim 27, wherein said acoustical coupling member is an acoustical reflector, and includes a central parabolic section coaxial with said longitudinal axis of the enclosure, and at least one ring-shaped ellipsoidal section coaxial with said central parabolic section.

43. (Previously Presented) The pulsator apparatus according to Claim 42, wherein said acoustical reflector includes two or more ellipsoidal sections coaxial with said longitudinal axis of the enclosure for producing composite pressure pulses having two or more focussed portions focussed to focal points spaced from each other on said longitudinal axis of the enclosure outwardly of said flexible diaphragm.

44. (Previously Presented) The pulsator apparatus according to Claim 27, wherein said acoustical coupling member is an acoustical lens, and has a central section formed with a cut-out coaxial with the longitudinal axis of the enclosure, and wherein said pressure-pulse source is a flat-surface source located in alignment with said cut-out of the acoustical lens.

45. (Previously Presented) The pulsator apparatus according to Claim 44, wherein said acoustical lens includes a plurality of two more ring-shaped focusing sections circumscribing said cut-out and coaxial therewith.

46. (Previously Presented) The pulsator apparatus according to Claim 44, wherein said flat pressure-pulse source includes a backing plate having a surface facing said acoustical lens, and a coil supported on said surface of the backing plate with the center of the coil located on the longitudinal axis of the enclosure.